



## If no suspicion, then no diagnosis: A case report

No suspicion, no diagnosis

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### Abstract

In this study, we examined the history and examination outcomes with differential diagnosis and further investigations of a 17-year old female patient with left wrist pain for about 3 years. It was reported the difficulty in diagnosis of a disease which can be presented in the wrist with atypical findings and that it must be considered in the differential diagnosis.

### Keywords

Diagnosis; Wrist; Pain; Tumor

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### Introduction

In this study, a case of chronic wrist pain in a 17-year-old female patient was investigated. History of the patient and outcomes of the investigations were reported, and the readers were asked about the method they think for diagnosis and treatment in this case.

A case report either should provide new knowledge to the literature or attract attention to a new condition or disease, or report repeat of a condition or a case in order to demonstrate there are sufficient reasons to conduct further comprehensive studies [1-3]. In addition, the title and abstract should provoke the reader, providing the entire text to be read [4].

In this study, a definitive diagnosis was made in the further investigation and treatment was successfully achieved. The diagnosis for this localization is reported as case reports in recent years. In this study, we aimed to report repeat of this case, providing both further studies to be conducted on this issue and giving an idea to the readers about the approach method in such case.

### Case Report

A 17-year-old female patient with pain in her left wrist over the last 3 years was seen in our orthopedics clinic. The patient reported no difference between the level of pain at night or during the day or exacerbation, and she reported occasional pain. During the examination, there was a mild soft tissue swelling and ulnar and volar deviation in the left wrist (Figure 1). The examination revealed that wrist of the patient could be brought to the neutral position by force, but the patient had severe pain during this maneuver. The joint motion range was full, but the radial deviation and hyperextension were severely painful.

The patient reported that she had used non-steroidal anti-inflammatory drugs by herself at first onset of the pain and these drugs fully resolved the pain, but later the drugs only somewhat decreased the pain and the specified deformity developed in her left wrist. In the anamnesis of the patient, there was no history of trauma or infection. It was noted that she had been referred to different hospitals and departments several times due to this complaint and underwent direct radiography, magnetic resonance imaging, electromyography in the upper extremity, hemogram biochemical parameters, rheumatologic blood tests, and left wrist Doppler examination, in addition, she had been examined for brucella and tuberculosis, but no significant findings had been found in all these investigations. It was reported that different treatment options were applied for the purpose of treatment including resting, static wristband, intraarticular injection and non-steroidal anti-inflammatory drugs, but the patient did not benefit from these. The patient reported that frequency and severity of the pain increased during the last year, causing her to have difficulties in daily activities.

Direct radiography revealed no significant finding except sclerosis in the middle one third at the joint surface of the distal radius suggesting early arthritic findings (Figure 2). On the MRI of the left wrist, there was edema appearance in the left distal radius metaphysis which was completely diffuse at distal. In addition, following intravenous contrast agent (IVCA) injection, there was a minimal contrast enhancement in the surrounding soft tissue (Figure 3).

In light of these information and images, what would be your presumed diagnosis and approach at the next step?

The patient was assessed in the Ankara Hospitals Tumor Council. It was decided by the council to perform wrist computed



Figure 1. image of the wrist at the time of admission, volar and ulnar deviation



Figure 2. Direct radiography, sclerosis in the distal radius



Figure 3. MRI images of the wrist, diffuse edema in the distal radius and minimal contrast enhancement in the soft tissues

tomography (CT) examination for intraarticular pathologies. The CT revealed sclerosis in the nidus and surroundings near proximal of the radiocarpal joint in the distal radius. The patient was diagnosed with osteoid osteoma (Figure 4).

The patient underwent fluoroscopy guided nidus excision, showing maximum attention to protect the radius distal joint. The defective area was grafted (Figure 5). In the postoperative follow-ups, wrist pain of the patient was completely resolved, the joint motion range was full and pain-free. Postoperative month 6 controls were performed. The patient can sufficiently use her wrist, and she is satisfied with the outcome.

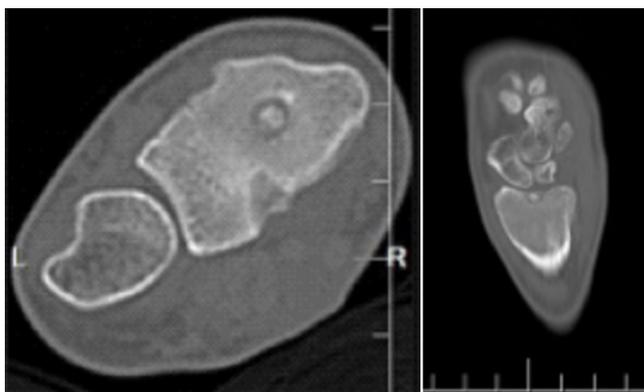


Figure 4. CT images of the wrist, well-established nidus and sclerosis surrounding the lesion



Figure 5. postoperative direct radiograph, grafting performed after nidus excision

## Discussion

Osteoid osteoma is a benign bone tumor which has been described for the first time by Jaffe in 1935. The tumor is most commonly seen in the 2nd and 3rd decades of life. Its etiology is unknown, and it has osteoblastic properties. It is often seen in the femur and the tibia, although it has been reported that this tumor may be seen in every bone [5-7].

The incidence of osteoid osteoma localized in the distal radius is reported to be less than 1%. However, recent case reports have presented an increasing number [7-10]. As in our case, intraarticular osteoid osteomas that may present with atypical symptoms and difficulties in the diagnosis may probably hide its real prevalence. In addition, posttraumatic or postoperative osteoid osteoma cases are reported in the distal radius [7,11]. Osteoid osteoma most frequently presents with pain which worsens at night. However, clinical presentations of these lesions at localizations surrounding the joint are not characteristics and may cause misdiagnosis [8]. Especially, the absence of accompanying nocturnal pain should not rule out osteoid osteoma in a patient presenting with chronic pain around the joint. The differential diagnosis of wrist pain may include de Quervain tenosynovitis, osteomyelitis, carpal tunnel syndrome, stress fracture, avascular necrosis, malignant tumors such as Ewing's sarcoma, inflammatory arthritis and Brodie abscess [8,10,12-16]. The differential diagnosis should be based on the detailed

medical history of the patient, clinical examination, radiological and laboratory investigations [5,14].

Osteoid osteoma is usually characterized by a well-established nidus less than 1 cm and surrounding reactive bone formation on the CT imaging. In our study, we also observed pathognomonic nidus and reactive bone formation on the CT.

In conclusion, osteoid osteoma may present in an atypical localization like distal radius and with an atypical form, and herein we presented such a case. Osteoid osteoma should be kept in mind in the differential diagnosis of persistent pain in a joint following treatment.

## Scientific Responsibility Statement

*The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.*

## Animal and human rights statement

*All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.*

## Conflict of interest

*None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.*

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